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XIII. *Some Observations on Swarms of Gnats, particularly one seen at Oxford, August 20, 1766. In a Letter to Charles Morton, M.D. Sec.R. S. from the Rev. John Swinton, B. D. F. R. S. Member of the Academy degli Apatisti at Florence, and of the Etruscan Academy of Cortona in Tuscany.*

Dear Sir,

Read Feb. 26, 1767. **T**HE gnats have been more numerous, as well as more noxious, here, during the months of July, August, and September, 1766, than perhaps they were ever known to be before in the memory of man. So many myriads of them have sometimes occupied the same part of the atmosphere, in contiguous bodies, that they have resembled a very black cloud, greatly darkened the air, and almost totally intercepted the solar rays. The repeated bites likewise of these malignant insects have been so severe, that the legs, arms, heads, and other parts, affected by them, in many persons, have been swelled to an enormous size. The colour also of these parts, at the same time, was red and fiery, perfectly similar to that of some of the most alarming inflammations.

As the natural history of these troublesome insects is sufficiently known, having been given us, with great accuracy

accuracy and precision, by Moufet, Swammerdam, Reaumur, and others, it would be superfluous to expatiate upon them here. But I cannot forbear taking notice of one very remarkable property of these little mischievous animals, which lately presented itself to my view, and which has not yet perhaps been duly attended to by any naturalist. Being in the garden belonging to the Fellows of Wadham College, with the Reverend Mr. Allen, Fellow of that house, on Wednesday, August 20, 1766, about half an hour before sun-set, such an immense number of gnats filled the atmosphere, in which we breathed, as I had never seen before. We both of us also then observed six columns, formed intirely of these insects, ascending from the tops of six boughs of an apple-tree, in another garden, separated from that we were in by a partition-wall, to the height of at least fifty or sixty feet. Two of these columns seemed perfectly erect and perpendicular, three of them oblique, and one approached somewhat towards a pyramidal form. That bodies of gnats, in figure a little similar to the pillars mentioned here, are now and then to be seen, we learn from an ingenious \* author; but that these bodies ever ascend fifty or sixty feet, has not, I believe, been yet observed by any zoologer or natural historian.

It may not be improper to remark, that some of these gnats had their bodies greatly distended, and swoln much beyond their usual size, by the uncommon quantities of blood they had imbibed. One of them, in particular, being killed at the castle here, seemed considerably larger than any of the rest, and

\* Tho. Moufet, *Insector. sive Minimor. Animal. Theatr.* c. xiii. p. 82. Londini, 1634.

had as much blood expressed from it as stained or besmeared part of a wall three or four inches square.

I have been informed by the Reverend Dr. Wyndham, Warden of Wadham College in this University, that, about thirty years ago, many columns of gnats were perceived to rise from the top of the steeple of the cathedral church at Salisbury, by a considerable number of people. He likewise declared, that these columns were seen both by himself and the Reverend Dr. John Clarke, then Dean of Salisbury; that, at a small distance, they resembled smoke; and that this at first occasioned a sort of alarm, many believing that the church was on fire.

I shall only beg leave at present to add, that the Reverend Mr. Berkeley, Student of Christ-Church, as he assured me, was entertained with an appearance similar to that I had seen, the same evening, in the country, at a small distance from Oxford; that some of the bodies of gnats perceived by him, unless he was deceived, ascended much higher than those I had observed; and that I am, with all due sentiments of respect, Sir,

Your much obliged,

and most obedient,

humble servant,

Christ-Church, Oxon.  
Nov. 15, 1766.

John Swinton.